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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/337,040	06/28/1999	MITSURO SUGITA	684.2864	8450

5514 7590 05/14/2002

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/377,040

Applicant(s)

SHIRAISHI ET AL.

Examiner

Henry Hung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-25, 38-50, 63-75, 83 and 85-125 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☒ Claim(s) 38-50, 63-75, 83, 85-99, 104-125 is/are allowed.

- 6) ☒ Claim(s) 13-25, 100-103 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/3/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18. 6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 4/23/2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/337,040 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13-25, 100-103 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kudo (U.S.Pat. 5,392,094).

With respect to claims 13-25, 100-103, Kudo discloses an exposure apparatus for transferring a pattern formed on a mask onto a substrate comprising all structures as set forth in the instant claims such as: a first aperture variable means (14) as first exposure means for illuminating the mask with light of a predetermined wavelength under a first illumination condition and a second variable means (15) as a second exposure means for illuminating the mask with light of a predetermined wavelength under a second illumination condition; a control means (12) for controlling the operation of the first and second variable aperture stop means wherein the development process is performed after the first and second exposure means as

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inherent step in lithographical process and being well known per se. Applicant argued that Kudo fails to suggest performing first and second exposures under different mask illumination conditions, respectively, and prior to a development process as recited in claims 13-16. The Examiner respectfully disagrees with the applicant since in Kudo, exposures are performed via different apertures stops. Therefore, this can be regarded as exposures under different illumination conditions as recited in the instant claims. Also, exposures must be performed before the development process for lithographically printing a circuit pattern on a photosensitive wafer.

4. Claims 13-25, 100-103 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Von Bunau et al (U.S.Pat. 5,863,712).

With respect to claims 13-25, 100-103, Buanau (fig.1) discloses an projection exposure apparatus and method comprising all of the limitations of the instant claims including performing first and second exposures under different conditions for printing first and second patterns formed on a mask onto a photosensitive wafer (see abstract).

5. Claims 13-25, 100-103 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shiraishi (U.S.Pat. 5,467,166).

As to claims 13-25, 100-103, Shiraishi discloses a projection exposure apparatus comprising all of the basic features of the instant claims including: a first optical members and second optical member for illumination the mask under first and second illumination conditions where the first illumination condition is different with the second illumination condition (see

claims 1 and 2 of Shiraishi). Applicant argued that Shiraishi fails to teach performing first and second exposures under different mask illumination conditions, respectively, and prior to a development process as recited in claims 13-16. The Examiner respectfully disagrees with the applicant; Shiraishi meets the limitations as broadly claimed since Shiraishi does teach performing multiple exposures by changing the illuminating light passed through the aperture stops (8) as well as by changing the characteristics of the projection optical system via a coherence reducing member.

Response to Amendment

6. Applicant's amendment filed March 13, 2002 have been entered. With regard to claims 13-25, 100-103, applicant's arguments with respect to prior art have been carefully considered but have been reversed as set forth above.

Allowable Subject Matter

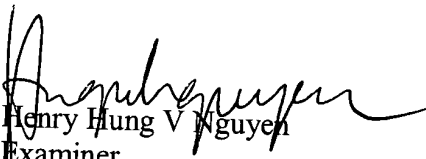
7. Claims 38-50, 63-75, 83, 85-99, 104-125 are allowed because applicant's amendment filed March 13, 2002 is sufficient in overcoming the rejections under 35 U.S.C. 112, second paragraph as set forth in the previous Office action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Hung V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Henry Hung V. Nguyen
Examiner
Art Unit 2851

hvn
May 10, 2002